THE
WESTERN JOURNAL
OF THE
MEDICAL & PHYSICAL SCIENCES.

JULY, 1828.

ESSAYS AND CASES.

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ART. I.—*History of a case of* ISCHURIA, *successfully treated by the cold affusion. By* DR. LEWIS CAMPBELL, *of Moulton, Alabama.*

On Sunday, the 29th of May, 1827, I was called to H. M. W—, Esq., aged thirty four. He informed me, that he was taken, on the preceding Wednesday, with dysenteric symptoms. Being from home on business, he continued to ride a short distance, every day, till Saturday, when he was confined. In the morning before I saw him, however, he had rode 15 miles in a gig. When I arrived, he complained of intense pain in the region of the rectum and bladder, with continued and distressing tenesmus, and an entire suppression of urine, which had existed for forty eight hours. His skin was dry and warm, pulse frequent and tense, stools scanty and whey coloured, covered with a black flaky matter, stomach irritable.

He was placed in a tub of tepid water and had a vein opened, which bled freely; but although kept in the bath for some time, no effect was produced on the strangury. I proposed the use of the catheter; at the same time expressing my reluctance to attempt its introduction, as it would be necessarily attended with pain, and, perhaps, considerable difficulty, from the inflamed and irritable state of the parts.

To this operation, Mr. W. was reluctant to submit, while there was a hope of relief from any other means. He was again immersed in tepid water, and remained some time, but without effect.

In this trying situation I reflected, that cold, applied to the skin, has a tendency to produce a flow of urine. But a cold bath, in a case of inflammatory dysentery, would, as far as I knew, be an unprecedented practice. I did not, however, apprehend any danger from a current of cold water to the pubic region, whilst he was placed in tepid water to the nates. I accordingly took a half gallon pitcher of cold spring water, and poured it, in a continued stream, on the region of the bladder and pubis, while he sat in the tepid bath. Before I had emptied the third pitcher, the urine broke forth, in a full and free stream, greatly to my satisfaction, and to the inexpressible relief of the patient.

I then directed 3j. of Balsam Copavi and 10 grains of Pulv. Doveri, with a dose of Calomel, to be taken in the course of the evening.

30th, at 8 o'clok, A. M. I found that the patient had neglected to take the Calomel, and had spent a restless night. His calls to the stool were frequent and painful. The dejections had the same appearance as yesterday. He complained of pain in the course of the urethra; had had no evacuation of urine. Gave the dose of calomel; and the same expedient which succeeded so well last evening, was resorted to with equal success. The stream of cold water had not been applied thirty seconds, when the urine burst forth; the bladder emptying itself completely. At 7 o'clock, P. M., the calomel had operated freely. The stools were dark and consistent, with great pain, and a total loss of the power of the sphincter ani, the contents of the bowels passing off involuntarily. Laudanum and Dover's powder were both taken during the night.

31st, 8 oclock, A. M. Dejections were copious and dark coloured, pulse frequent. Six grains of calomel and thirty drops of laudanum were ordered. The stools improved in their appearance during the day. At 6 o'clock, P. M., Grip-

ing and tenesmus, with distressing pain in the region of the bladder; had not made water; pulse excited; skin dry. Drew twenty four ounces of blood, and used the water as before, with the same success.

June 1st, 6 o'clock, A. M. Directed 5 grains calomel and 15 grains pulv. Doveri. Eased the tenesmus, and occasioned a perspirable state of the surface. The alvine evacuations frequent and consistent; of a lighter colour than formerly; urine evacuated by the application of the water as before. At 3 o'clock, P. M., being called to the country for the night, I directed twenty grains pulv. Doveri, and a drachm of bals. Copaiva to be taken in the course of the night. This quantity of balsam had indeed been given every evening.

June 2d, 10 o'clock, A. M. Had not urinated since the morning of the preceding day. Extreme pain in the rectum and bladder. Omitted the powders last night. Gave the Dover's powder with five grains of calomel. Evacuation of urine effected as formerly, but with more difficulty and a longer continuance in the bath. Bowels were freely opened by an enema of warm water. From this time his convalescence was speedy and uninterrupted.

Moulton, Alabama, May 19, 1828.

ART. II. *A case of* POISONING *by* OPIUM, *treated with success by the affusion of Cold Water. By* DR. JOHN F. BROWN, *of Jackson, Tennessee.*

On the 30th June, 1825, early in the morning, I was called to see Mr. Harris. On my arrival, I found him lying on his back, apparently in a profound sleep; and was informed, that every exertion had been made to awaken him, but ineffectually. There was no suspicion of his having attempted to destroy himself; and no knowledge of his having taken opium. After examining him for some time, I was confident he was under the influence of some powerful narcotic. His pulse was about 45 in a minute; skin cool and flaccid, slightly moist

with clammy sweat; breathing slow and laborious; pupils of the eyes dilated; and his jaws strongly set. I had them opened, and on inspecting the mouth, found some small pieces of opium sticking to his jaw teeth. This confirmed our first impression; and, accordingly, with as much haste as possible, I endeavoured to excite vomiting, and arouse him from his profound lethargy. But all attempts were ineffectual. Fifteen grains of tartar emetic were forced into his stomach, and repeated in 10 or 15 minutes, the fauces being titillated with a feather; but without the least possible effect. The sulphate of zinc was also administered freely, but to no better purpose.

His situation still growing more alarming, I requested the attendance of Doctors Young and Snider. On their arrival, the case was believed to be hopeless, as every exertion to arouse the system had proved ineffectual. It was immediately determined to use the cold affusion, in imitation of Doctors Jackson and Cross. We, accordingly, had him placed on the floor, and poured a large vessel of cold water on him, commencing with his face and directing it to his breast. The first vessel was expended without producing any sensible effect. We resorted, without delay, to a second, which appeared to produce some effect, for he began to struggle. So soon as we began pouring the third, he suddenly raised himself on his nates and said, "I cannot stand every thing." We continued the cold affusion, at the same time endeavouring to excite vomiting by titillating the fauces, which was effected so soon as sensation was awakened. As soon as practicable, we directed strong coffee to be taken freely. In about two hours the emetic medicines produced a free catharsis. We directed frictions and moderate exercise, with some other gentle remedies, intended to obviate the effects of the opium, and left him.

I did not visit my patient until late in the evening, when, to my astonishment, I found him cheerful, and apparently free from the effects of the opium. All the secretions appeared to be completely reestablished. I directed him to keep his bowels open with salts or oil. He continued to mend,

and was free from all symptoms of the poisoning in a few days.

From the statement of the patient, after his recovery, it must have been 14 hours from the time he swallowed the opium, until I saw him. He said he had swallowed a large piece at bed time, the night before. The first dose made him vomit; and, thinking he had thrown up the principal part, he repeated the portion. From the description of this piece, it must have weighed two drams, both together making half an ounce. Whether he threw up the whole of the first dose, is not known.

This case would seem to be of considerable importance, when we take into consideration the period which elapsed from the time of taking the opium, until medical aid could be had,—and his very quick recovery, without the train of disagreeable symptoms, which are not unusual, when large quantities of opium have been taken.

Jackson, Tennessee, May 27, 1828.

ART. III.—*An account of the beneficial effects of* ERGOT, *in a case of Hydatids of the Uterus. By* DR. P. B. JOHNSON, *of M^c Connelsville, Ohio.*

In the first number of the American Journal of the Medical Sciences, there is an account of the use of ergot in a case of hydatids of the Uterus; communicated in a letter from Dr. J. W. Anderson to Dr. Dewees. By this letter it appears, that this is the first case of that disease, wherein the ergot is known to have been used. The following is a short statement of a case that happened in my own practice.

Mrs. W., aged twenty four years, of good constitution, was taken, about the 1st of September, 1825, with pain in her abdomen, attended with a discharge from the vagina, of a light coloured fluid, loss of appetite, some fever, and occasional nausea. For four months she had supposed herself pregnant, and was at this time nearly as large as a woman

who had gone her full time. The physician who attended, believed her to be dropsical, and had prescribed accordingly. On the 15th of September, I was requested to visit her.—When I arrived, I found her extremely exhausted, with a pulse scarcely perceptible, and a copious flooding, which still continued. Upon examination, *per vaginam*, I discovered in the mouth of the uterus, something which I supposed to be clotted blood; but upon removing my hand, I found, sticking to the ends of my fingers, a number of small vesicles filled with a transparent lymph, which convinced me that her disease was hydatids of the uterus; and, inasmuch as the os uteri was not sufficiently dilated to permit me to introduce my hand, and her pains were but slight, I determined to try the effects of ergot, although I had never heard of its use in this disease. I gave her between 15 and 20 grains, and in 20 minutes her pains became regular and strong; the flooding abated *considerably*, and in a short time, she discharged, in detached pieces, nearly a gallon of hydatids, varying from the size of a mustard seed to that of a cherry. Her recovery was slow; and in January following, she was taken with a violent menorrhagia, which proved very obstinate; but at length, she regained her usual health, and has since been delivered of a perfect child. The above is the only case of hydatids of the uterus that I have seen; and I feel confident, that if the ergot had not been used, it would have proved fatal.

M'Connelsville, Ohio, July, 1828.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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ART. IV.—*Essai sur les Proprietes Medicales des Plantes, comparees avec leurs formes exterieures et leur classification naturelle: par* M. AUG. PYR. DE CANDOLLE, *Professeur de Botanique aux Facultes de Medicine et des Sciences de l'Academie de Montpellier, Professeur-honoraire a l'Academie de Geneve, Correspondant de l'Institut, des Academies Royales de Sciences de Munich, Turin, etc. Seconde edition, revue et augmentee. A Paris,* 1816, *pp.* 397, 8*vo.*

An Essay upon the Medical properties of Plants, compared with their exterior forms and their natural classification. By A. P. DE CANDOLLE, &c.

About half a century ago, when the "American Philosophical Society, held at Philadelphia," was almost the only association of philosophers in the new world, its leading members were greatly devoted to practical Astronomy. The objects on which they occupied themselves, were not less within the observation of the astronomers of Europe than of the U. States, while the former were far better supplied with instruments than the latter; and, consequently, were able to make exacter contributions to science. At the same time America was undescribed—her natural history unwritten. Her geological structure had not been exposed to view; her mineral treasures, like the precious metals of the miser, lay buried in the earth, and the countless variety of plants which shot from its surface, in unrivalled beauty and luxuriance, were by them left to bloom unheeded in the wilderness. Such was the misapplication of American intellect. Better conceptions at length arose; and it was seen, that while the Heavens could present nothing new to *our* philosophers, the Earth where they lived was prolific of novelties, and might be made to yield an opulent harvest. *It*, then, became an object of study; and the very city which was the cradle of American

Astronomy, has since become still more distinguished for its successful cultivation of Natural History and Medicine.

Since the era of which we have spoken, the West has been explored and settled. Men have encamped beneath its overshadowing forests, which have been thinned out by the axe of industry; its beautiful shrubs have been eradicated; its tribes of flowering and medicinal herbs trodden under foot, and in part made to disappear, like the wild animals which fed upon them. Population has thickened—organized society has begun to appear—the germs of useful knowledge have been planted. Medicine, the inseparable attendant on civilization, has been introduced, and its cultivators are to be found in every inhabited spot. They are surrounded by the peculiar plants which flourish in the bosom of a newly discovered continent; and, still, most of them are as inattentive to the science of Botany, as the earlier philosophers of America were to its natural history at large. Our present object is to point out this omission, and to recommend the cultivation of Botany, to our medical friends of the West.

Physicians ought to recollect (and they might be permitted to recollect it with pride) that the very name of their profession, is almost a synonym for nature; and that this title was appropriated to them, under a clear perception of the objects which should engage their attention. They are not called upon, however, to study all nature; this would be a fatal diffuseness. They must concentrate themselves upon a spot, but this, on the other hand, should not be too small; for the examination of a part can never make us acquainted with the whole. The proper study of the profession is organized nature, and this comprehends the vegetable as well as the animal kingdom. Between these two departments there is more intrinsic similarity than many persons suppose. The former, it is true, is far more complicated than the latter; but still the differences between them are to be found in their organs, rather than their constitutions. They are both highly vascular, and circulate fluids which undergo a great variety of transformations, affording many results which are

almost identical in the two classes. Their growth is apparently on the same principle; and they, alike, become old and perish. Finally, plants have their diseases, which greatly resemble those, which, in animals, we denominate organic. Thus the principle of physical animation and that of vegetation, seem to be mere varieties of the same power; and he who would comprehend its nature, should trace it throughout all its operations.

We might rest the question upon this reference to general physiology; but an equally conclusive argument in favour of Botany, may be raised by referring to therapeutick medicine. A large proportion of our most important medicines, belong to the vegetable kingdom; and although a physician may prescribe them, successfully, without an acquaintance with Botany, it is undeniable, that had not the vegetable kingdom been studied, scientifically, our Materia Medica would at this time, be far from that perfection which it boasts. Many of the greatest botanists have been physicians—of which we may cite Linnæus, Boerhaave, Withering, Darwin, and Barton. If the study of Botany has been necessary to the advancement of practical medicine in past times, it will be equally so in future; and, if it recommend itself to the profession generally, it still more forcibly recommends itself to the profession in the United States; and, especially, in the West and South. It is lamentable to observe the mistakes which have found their way into certain fashionable works on the Materia Medica; compiled or reprinted in this country, by gentlemen learned in every science, but that on which they undertook to write. In these reprints and compilations, it is perfectly easy, to place the finger of criticism on every botanical interpolation; for it bears the stamp of error or imperfection. Such productions add but little to the stock of professional knowledge; and still less to our national character. We have heard it said, however, that physicians have not time for the cultivation of any branch of natural history. This is not the fact. They fail, not from want of time, but from want of application; and this brings us to say, that the physicians of this country, both before and after graduation.

are in general deficient in application, to every thing, but the practical duties of the profession. It is undeniable that the majority of them enter upon those duties with a *minimum* of elementary knowledge, (excluding the rudiments of natural philosophy, mineralogy, zoology, botany, and, even, meteorology) and too often read little else, than the public journals, and an occasional compilation on practical medicine, ever afterwards. This is the great American failing. To this idleness (seeing that in books of science things should be called by their right names) we may fairly ascribe the imperfection of most of our contributions to medical science, when compared with those of our European brethren, whom experience has taught to rely, not on the pretended inspiration of genius, nor even the multiplicity of opportunities, so much as unabated diligence. This in fact is the *sine qua non* to distinction, in the medical profession; and, indeed, in every other. The proper time for a physician to cultivate Botany, and other branches of natural science, auxiliary to medicine, is the first few years after his graduation. He ought, indeed, to acquire the first idea of those sciences during his novitiate. Our colleges, however, in their wisdom have seen fit to dispense with all such attainments, with the exception of Chemistry (which is often studied most superficially) and few students are disposed to acquire more than the laws of the college prescribe, as indispensable. No young physician has, nor ought to have, much professional occupation. Every case should be a study for him; and he cannot, therefore, attend to as many in the same time, as the man of age and experience. Hence the correctness, on the part of society, of a slow extension of its confidence and patronage. During this period of probation, he has ample time for the cultivation of Botany, and indeed of the other sciences which lend a helping hand to Medicine; and to it we would earnestly direct the attention of the younger members of the profession in these western states. The fixed habits of our elder brethren cannot of course be altered.

The advantages which result to the individual from the study of Botany, are not limited to its connexion with medical

science. Few studies contribute so much to strengthen the faculties of observation and comparison, as that of Botany. It is a science of visible relations; and every practical botanist, must of necessity, become a good observer. The habit of nice discrimination thus acquired, is to a physician invaluable. Without it, the most comprehensive views in the philosophy of medicine, and the greatest erudition, will not preserve him from perpetual mistakes at the bed side of the sick; where, beyond every other situation, the consequences of error are most fatal.

But we must come to the work before us. Its object is clearly set forth in the title page; and will be, generally, acknowledged to be of substantial interest to the profession. We know of no book in our language of the same kind; and have, therefore, although it is not a very recent production, thought it worthy of being introduced to the notice of our readers.

The fundamental propositions of M. De Candolle's Essay are not new, but he has the merit of having illustrated them by a greater number of facts than any other person; and for this task, his manner of regarding and prosecuting the science of Botany had peculiarly fitted him.

In the Linnæan system, plants are distributed into classes, orders, and genera, by a reference to their fructification only; but it is well known, that many of the classes and orders of this method are artificial. A natural classification brings together such plants as resemble each other in all their parts. Such a method was long since attempted; and although attended with great difficulties, has been brought to higher perfection, than could, at first, have been anticipated. Among the distinguished labourers in this department, is M. De Candolle. He is, indeed, the author of one of the latest systems of natural classification, which is that adopted in the Essay now under review. By this system nearly all known plants are divided into 150 groups, or orders; each of which is subdivisible into genera or families. Now, the essential proposition of the work which we are about to present to the notice of our readers, is, that plants which resemble each other

in their external or botanical characters, also, resemble each other in their chemical composition and in their action upon the living body. From whence we derive the corollary, that the medical properties of one species of a natural group being given, the qualities of all the rest may be inferred, at least with considerable probability.

In the first part of his Essay, M. De Candolle undertakes to develope the general proofs of the analogy which exists between the forms and the properties of plants, and the rules by which the comparison should be conducted. The first chapter is divided into several sections; the first of which embraces the proofs deduced from theory; in which our author insists, that from principle we should expect to find the virtues of plants analogous to each other, when their botanical characters are analogous. The second section sets forth some of the proofs which are furnished by observation. If the different species of a natural family of plants possess a similar composition, and have similar properties, we might expect brute animals and insects, which have an instinctive fondness for a particular species, to extend their depredations to all others possessing analagous characters, provided they possess analogous constitutions, but not otherwise. Now observation informs us, that, in general, an animal which is prone to subsist on any particular species, will in the absence of that species, select others which are related to it in botanical characters; a fact which conclusively indicates a similarity in composition and qualities. Thus,

"The ox leaves untouched the whole of the labiated plants, and all the veronicas; and the horse refuses nearly all the cruciferous vegetables. Both these animals, the sheep, the hog, and the goat, scarcely eat any of the solanaceous plants, while they devour, with avidity, the grasses, the leguminous vegetables, and those with compound flowers. Animals naturally limited to a single kind of nourishment, sometimes extend their ravages to all the species of the same family. The insects might furnish a thousand examples of this kind. Thus the *Curcurio Scrophularia* of Linnæus, the *Cynips Rosæ*, the *Psylla Juncorum*, the *Curcurio Rumicis*, the *Cynips Salicis*, &c. attack many species of the genera, which bear these names, and some of them subsist indifferently upon all. For example, the

silk worm is nourished, in different countries, with the leaves of the white, black, red, Indian, and Tartarian mulberry." pp. 21, 22.

In the third section we have a brief statement of the proofs drawn from experiment; which the author justly regards as more conclusive, than those furnished either by reasoning or observation. The following paragraph will set forth his views on this subject.

"If," says he, "we inquire into the history of the Materia Medica, we find that a great number of medicines, even the most active, which in the infancy of the science, were respectively regarded as the product of a single plant only, have been since found in many kindred species. Thus the cinchona bark is derived from all the true species of that genus; rhubarb from nearly every species of *rheum*, opium from many different kinds of poppy, semen—contra (a worm powder) from a number of species of artemisia, and turpentine from the greater number of pines. Further, the best accounts inform us, that tragacanth is afforded by many spinous *astragali*, as gum arabic flows from many acacias; the roots of a kind of violet, growing in different places, are found to be emetic, and, I think I have rendered it probable, in a Memoir, that the anthelmintic property of the Fucus Helminticorton is common to a number of the Ceramiums. Many species of the same genus, afford medicines so similar, that before knowing their history we had united them under one name.

"There are others which, being better known to us because they are indigenous to France, have always been regarded as endowed with the same virtues; thus all the mallows are emollient, the scurvy grasses are antiscorbutic, the gentians febrifuge, the monkhoods and the hellebores, caustic and dangerous, the euphorbia acrid and purgative," &c.—p.28.

We might extend our quotations; but, the knowledge of every reader, will supply him with similar facts. It will, also, present him with many apparent exceptions to the rule; exceptions which our author recognizes, and proceeds to consider and explain away.

To accomplish this, he investigates, and attempts to settle the rules of comparison, between the properties and the external forms of plants; and this makes the subject of the second chapter. The first section treats of classification. Many naturalists speak of organized beings as constituting a chain. Our author objects to this manner of considering them. In the first place, "Nature,' says he, 'does not conform

to our books. Each being is placed among a certain number of other beings, with which it has more or less affinity; and the best means we possess of communicating an idea of this relation, is to represent all natural objects, not in a series, but as placed on a geographical chart. The species correspond to the towns, the genera to provinces, the orders to empires, the classes to continents, and insulated species to islands. If such a chart were completely executed, and laid before us, the first thing that would strike us, as in a true geographical map, would be, that in certain empires or certain provinces, the towns would lie very near each other, while in others they would be widely separated. This separation would indicate one of two things; either that there were intermediate species yet unknown, or that nature, in the order of being, had really left vacant spaces, here and there, as, upon the surface of the earth, she has created uninhabitable morasses and deserts. Here we have then a first cause of uncertainty—in the unequal distances from each other, of the species in the different genera or the different natural families. We ought, therefore, no more to be astonished, that the grasses, the mallows, and the labiate and cruciform plants, very closely resemble each other in properties, while the *caprifolaceæ*, the *rutaceæ*, the *urticæ*, and some other families, present anomalies, than we should be surprized, in the social order, to see a very populous and highly civilized country, exhibit uniformity of manners, while regions almost uninhabited, or divided by rivers or mountains, offer striking differences in the character of their people.

"Secondly. As in political arrangements we sometimes unite a detached city or a small island with the nearest province; so in the order of nature to avoid a multiplicity of divisions, the botanists attach to a genus or an order, a species which differs from the rest in its organization. In these cases if the properties differ, it is because the organization is different, and the exception confirms the rule.

"Thirdly. It frequently happens, that some plant which varies widely in its properties from the family or the order in which it has been placed in our systems is, subsequently, found, in reality, to appertain to some other."—pp. 33—36.

Passing by the examples with which our author illustrates this proposition, we come in the second section, to a comparison of the organs of plants. The section opens with a distinction between the general and the particular properties of plants. The former result from a mixture of the whole of the latter, which only, deserve consideration, in this inquiry.

"It is evident,' says he, 'that we ought to compare each organ of a plant with the corresponding organ in other plants, and, in this comparison, the more we descend into detail, the nearer we approach to exactness. Thus how many plants do we not see, which possess very different properties in their different parts! M. Jussieu has offered us a fine example of the utility of this exactness, in showing us, that in the seeds of the Euphorphiæ the perisperm is sweet and healthy, while the embryo is acrid and strongly purgative. Guided by this principle, we shall not make the mistake of comparing the potatoe with the berries of the other species of Solanum, nor the roots of the carrot with the leaves of the hemlock. Thus we have already weakened one of the strongest objections against the analogy for which we have insisted; and it will be still further reduced if we follow out the consequences of this comparison of the organs.

"First. It is evident that if some plants of a family enjoy a particular organ, which is either wanting, or very little developed, in the other plants of the order to which it belongs, we ought not to be astonished if the properties of this organ are not found in those plants. Thus if the pulp of the Vanilla enjoys aromatic properties which are not found in the family of the Orchideæ generally, do we not perceive the cause, by observing, that the pulp which envelopes the seeds, is entirely wanting in the other genera of the order? Is not the same pulp, soft and laxative in the the cassia and tamarind, wanting in the greater part of the leguminous plants? Examining this subject more closely, we find certain organs, which, if we may be allowed the expression, are accidental; and which have the same properties, whenever or in whatever family, they may be developed. Thus the tubers which are attached to certain fibrous roots, and which should be carefully distinguished from a simple swelling of the body of the root, contain a mild and nourishing fecula, as we see in the potatoe, Jerusalem artichoke, sweet potatoe, drop wort, &c. &c.

"Secondly. If, on the contrary, the useful properties appertain to some organ, essential to the family, we find that these properties offer but little variation. Thus the farinaceous perisperme of the grasses, is highly nutritive and of an agreeable taste. The seeds of the umbelliferous plants, all of which have small vessels filled with essential oil, are, the whole of them, stimulating and aromatic &c.

"Thirdly. If the same properties appear to be found in similar plants, but in different organs, we may, it seems, to me, find the cause of this anomaly, in studying with greater care the relations of these organs. This subject, which belongs to vegetable anatomy, requires developments of considerable length, and a degree of knowledge which perhaps the botanists have not yet acquired; I will, therefore, content myself with citing such examples as will enable us to perceive its utility. When we examine the series of monocotyledonous plants, we are surprized to see the bulbs of the liliaceæ fur-

nish fecula, almost like the stems of the palms; while other bulbous roots, have a cathartic property, analogous to that afforded by the juice of the stem and leaves of the aloe. This resemblance between the stems and bulbs, which may appear an exception to the rule which I have attempted to establish, is, on the contrary, in my opinion, a confirmation; for vegetable anatomy proves, it appears to me, that the bulb ought not to be assimilated to the roots but to the stems: I will explain myself."—pp. 37—40,

Our author here proceeds to give his reasons for this opinion, which are ingenious if not conclusive: but as the subject is purely botanical, we shall pass over, and proceed to the next section.

In this section, our author enquires into the influence which soil, climate, and other causes, exert, in modifying the properties of the different species of a family. The following extract will show his manner of considering this subject:

"M. Theodore de Saussure has shown us, that this influence (that of the soil) extends much further than we had thought, by having remarked, that the same plants growing in granite or in calcareous soils, offer remarkable differences in their chemical composition, and in their nutritive properties. The attention of physiologists has been excited upon this subject too short a time, to enable us to draw from it many direct consequences; but we know more of the influence of the soil in other respects: thus in certain families we see the properties of the same plant vary a great deal, according as it has grown in a dry or a humid situation; the *Heracleum Sphondylium*, a common plant in our meadows, and which different domestic animals eat without inconvenience, becomes sometimes poisonous, when it grows in a very wet place, or when the year is too abundant in rain. We see in the same manner, that the celery which is collected in marshes, where it grows naturally, is acrid, nauseous, and poisonous, while it becomes sweet and proper for nourishment when it is cultivated in a dry soil. If the same species of umbelliferous plants offer such anomalies, ought we to be surprized at seeing the other plants of that family acquire, in general, a property more or less poisonous, when they grow in wet places, as we see in the *Phellandrium Aquaticum*, *Cicuta Virosa*, *Œthusa Cynapium*, *Œnaothe Crocata*, &c., while, on the contrary, those which grow in dry places, exposed to the sun, are more or less mild, aromatic, and stimulating: such are—*Angelica Archangelica*, *Coriandrum Sativum*, *Anethum Fœniculum*, &c. According to the same observation, ought we to be astonished, that all the poisonous umbelliferæ are natives of cold or temperate countries, while those which grow in warm countries are aromatic and usefully employed as stimulants"—pp. 43, 44.

In like manner our author states the influence of elevation, of light, of the season of the year, and of the age of plants, upon their properties; the whole of which, we should be pleased to transcribe, but our limits do not permit.

The fourth section is chemical. In the first place, the diversities, in quality, which similar plants present, from a mere variation in proportion, of their ingredients, may be very great. Thus, for example, analogous plants may abound in the gum-resins, but the relative qualities of these principles may be constantly varying; and in the roots, which contain fecula mixed with an acrid juice, such as those of the genus Arum, the latter may exist, sometimes, but in very minute quantities, or even be entirely wanting. In the second place, among the immediate materials of vegetables, there are some which exist successively, in several different states. Thus mucus changes to sugar, and this again seems to furnish the elements of fecula, the fixed oils are transformed into wax, and the volatile, into resin, &c. So that if the two species were compared in different stages of this transformation, they might present great apparent differences, when in reality they possessed great similarity. In the third place, when we see very different plants apparently affording the same principles, which is contrary to the theory, we shall often find, upon closer inquiry, that the resemblance, in properties, is not, in reality, so great as we at first supposed.

"Thus, although the bitter taste denotes, in general, analogous qualities, in the plants which are endowed with it, still this is not rigorously true, except when it relates to vegetables of the same family. The bitter and deleterious principle of the Strichneæ; the bitter and poisonous principle of the Menisperma; the bitter and salubrious principle of the Gentianæ; the bitter and animalized principle of the Armoises; the bitter and resinous principle of the Magnoliaceæ; the bitter principle, so eminently soluble in water, of the Simaroubeæ; the bitter principle of the Angusturæ, which gives with iron a yellow colour; that of the Chamadrys, which precipitates iron of a green colour; finally, that of the Quinquina, which precipitates the nut gall, and dissolves equally, in water and alcohol;—all these different bitters, I say, are different substances, and cannot be, rigorously, compared with each other. We arrive at the same result, if we compare, in the same manner, the astringents, owing

either to the gallic acid, found in the Ratanhia, the tannin existing in the Acacias, or the union of these two ingredients, as they exist in different plants, &c.

"These important considerations furnish us with an answer to one of the strongest objections, that made by M. Halle, to the analogy between forms and properties, viz. that the same properties are found in very different families. This assertion may be strictly true, when made of determined properties, and relative to chemical materials, perfectly pure and identical in all vegetables; thus the slight modifications which we observe in the feculas, fixed oils, gums, ligneous matters, &c., are of little importance; but when the assertion is made of principles less uniform in their composition, and not so generally spread in the vegetable kingdom, the distinction of families will be found to display all its importance; thus we know, that the bitters and astringents, in the same family, are *only* similar to each other; all physicians know very well, that the action of narcotics, obtained from different families, is far from being the same; thus we find a narcotic principle in the *Papaveraceæ*, the *Chickoraceæ*, the *Borragineæ*, the *Drupaceæ*, *the Solanaceæ*, the *Nymphæaceæ*, &c.; but they are different from each other, and are no more to be confounded in the practice of medicine, than in the classification of the botanists; the application of the theory of natural relations to the Materia Medica, may even be useful, in many cases, as a means of classing with greater exactness, the varieties which present themselves in the same series of medicines: thus, not to depart from the example already cited, it seems to me, that a classification of narcotics, founded upon the natural families of plants, would be at least as exact, as those which are found in most treatises on the Materia Medica."—pp. 49—51.

The fifth section treats of the influence of pharmaceutic manipulations, in modifying the active properties of the ingredients of plants; and points out the necessity of making those processes exactly uniform, when we propose to use their results in estimating the relation, between natural affinities and medicinal qualities.

The sixth, discusses the modifying agency of the mechanical and some accidental properties of plants, on our estimate of their essential medical virtues. Of this section we shall translate a single paragraph, which contains a suggestion that will perhaps be new to most of our readers, and may serve as a specimen of the author's views.

"Thus when the dog, urged on by instinct, eats the dog's grass (Chiendent) to cause vomiting, we ought not to count that herb

among the emetics, since to all appearance, it only produces this effect upon the dog, because that animal, furnished but with cutting teeth, cannot grind it; and in swallowing it half masticated, experiences an irritation in the œsophagus, which excites vomiting, as it is occasioned in man, by tickling the fauces."—p. 54, 55.

In the last section, our author speaks of the errors which the profession have committed, in their therapeutick observations; and attempts to show that great inaccuracies may creep into our remarks on the modus operandi of medicines; in consequence of which we may be led to disbelieve in fixed relations, between botanical affinities and medical properties, when they really do exist. The great causes of error are two:

"1. We often designate under two different names, and range in different classes, medicines, the action of which upon the animal fibre, is really similar; and this error depends on two causes; first, applying two different medicines to different organs, and then comparing their effects, instead of applying them to the same organ; secondly, comparing their effects when administered in very different portions—one being given in a large and the other in a small quantity—variations in the dose which must afford striking differences of effect.

"2. Having considered how, either by diversity in diseases, or in the doses of medicine, the effects of those which are really analogous in virtues, may be very different, it remains to examine the last source of error which I shall notice. It is this, that substances really different, sometimes produce similar effects. There is scarcely any class of medicines, in which we cannot find examples of this phenomenon. Thus although the increased flow of urine from diuretics, seems to be a very simple effect, it is, nevertheless, produced in three different modes;—by the mere augmentation of the mass of liquids in the body; by a special stimulation of the kidneys; or by increased excitement of the whole system. The succulent fruits, the digitalis and the squill, appear to me to offer examples of these three classes of diuretics."—p. 61, 62.

This example, although in some respects exceptionable, may serve to explain our author's meaning; and, desiring to close our account of this part of his book, we shall conclude with the following extract:

"Here terminates the first part of this work. We have traced out the principal rules which the present state of Botany, Chemistry,

and Medicine can present, to govern us in comparing the properties of plants with their natural classification; and each of them, instead of augmenting the number of exceptions, has furnished, on the contrary, a solution of many anomalies; a circumstance which, if I do not deceive myself, goes far towards establishing the truth of the theory."—p. 63.

Having delivered what may be called the theory of his subject, our author comes, in the second part, to the practice. This is by far the largest portion of his book. He regards all plants as divisible into a number of natural groups or orders, which, in another work, he has arranged in a series of his own. Each of these groups he now takes up, separately; and examines, whether its properties are equally uniform, with its botanical characters. This is obviously an undertaking of great magnitude; and requires, for its perfect execution, a far more intimate knowledge of the botanical relations, chemical composition, and therapeutic qualities of plants, than we have yet attained. Hence, in travelling through the series, we perpetually meet with natural families, the virtues of which are so imperfectly known, that they can only be indicated, as proper objects of future inquiry. In others, the properties of the species correspond beautifully with the natural characters, and hold out to the cultivators of this interesting branch of science, a prospect of ultimate success, that should animate them to continued exertion.

Of this part of our author's work, we shall translate and present to our readers, an account of as many natural orders as our limits will permit, selecting those which will be intrinsically interesting to the profession, rather than such as are best calculated to demonstrate the reality of the connexion between botanical affinities and medical properties.

"3.—MAGNOLIACEÆ.

"Although the family of *Magnoliaceæ* is composed of a small number of species, it merits the attention of physicians, by the intensity of their sensible qualities.

"The bark of all the species, possesses a bitter taste, without astringency, combined with a pungent and aromatic quality. The last property is, especially, remarkable, in the different species of the ge-

nus Drymis, which indeed, suggested the name;* such as the *Drymis Winteri*, celebrated under the name of *Winter's Bark*, but which must not be confounded with the *Winterana Canella*, which belongs to the family of Meliæ of Jussieu; the *D. Granatensis* of Santa Fe, the *D. magnoliæfolia*, named *Canelo* in Chili, and two other species, imperfectly known, indigenous to Mexico and Brazil: The barks of all these species are slightly bitter, very sharp, pungent, and aromatic; and are employed with success as stimulating tonics, and stomachics, in dyspepsia and in certain fevers. The same physical qualities and medicinal properties are found in the bark of the *Melambo*, lately introduced into European practice, and which appears to me, evidently to come from a Drymis or some kindred genus. This bark contains neither tannin nor gallic acid, but a volatile, aromatic principle, and a great quantity (nearly one fourth of its weight) of a bitter and resinous matter. The aroma of the bark of the Drymis is found, although less intense, in the bark of the Illicium, in that of the *Magnolia glauca*, *grandiflora*, and *auriculata*, finally, though feebler still, in that of the *Liriodendron tulipifera*. In the two latter genera, the bitter principle predominates; and they are generally employed in America as tonics and febrifuges. Several of them, as the *M. glauca*, and, especially, the *L. Tulipifera*, (yellow poplar) are used in the United States of America, as substitutes for the Peruvian bark.

"The analysis of the bark of the yellow poplar, published by M. Tromsdorf, demonstrates, as in the case of the Melambo, a total absence of tannin and gallic acid, with the presence of a considerable quantity (one eighth of its weight) of bitter principle, which is said to be, not resinous, but of the nature of extractive.

"The aromatic principle of the Magnoliaceæ is found in many of their fruits; especially in the pericarps (seed cases) of the *Illiciums*, where it is very remarkable. These shrubs are known, under the name of Badian or star-Anis. The species which grows in China, (*I.* anisatum) bears stellated fruit, the odour of which is sweet, pungent, and aromatic, and its taste a little tart. The Chinese burn it in their temples; and the Europeans employ it, in rendering certain liquors aromatic, as for example, the Anisette de Bordeaux, from which we may conclude, that the aromatic principle of the stellated Anis has a resinous nature. A tincture of the fruit of the *Magnolia acuminata* is employed with some success in rheumatic diseases. The seed of almost every species of that genus are remarkable for their bitterness. This property is well known in the American species; and the seeds of the *M. precia* or *yulan*, known in China under the name of *Tsin-y*, are there employed as a bitter and febrifuge.

"Finally, the odour of the flowers of many species of this genus, has a decided action upon the nervous system. That of the *M. tripetata* or umbrella tree, causes nausea and headache; and Dr. Barton

* Drymis signifies in Greek, a pungent taste.

relates that the odour of the flowers of the *M. glauca* is so stimulating that he has seen it increase the paroxysm of a fever, and the pain in an attack of inflammatory gout. I should even cite on this occasion, the sweetness of the perfume afforded in India by the flowers of the Champacs, (*Michela*) in Japan by those of the Yulan (*Magnolia precia*, Corr. *M. Yulan* Desf.) and in Cayenne, by those of the *Magna odorata*, Aubl.—pp. 72—76.

"18.—VIOLACEÆ.

"The active properties of the Violaceæ reside in the roots, all of which appear to be endowed with emetic virtues, in a greater or less degree. Such are, among the species without reversed flowers, which constitute the genus *Pombalia* of Vandelli, or *Ionidium* of Ventenat, the *Viola parviflora*, *V. ipecacuanha*, and *V. itonbou* of Aubl. of which I have spoken in detail in my Memoir on the different kinds of Ipecacuanha;—such are also, among the true Violets, the *V. odorata*, *V. canina*, even the *V. tricolor*, the properties of which, although feeble, cannot be doubted. The last species, is distinguished, likewise, by the utility of its leaves and stems, in cutaneous eruptions, concerning which, however, new experiments are required.—p. 96.

"21.—HESPERIDEÆ.

"At the time of the first edition of this work, the family of Hesperideæ was so badly described in its limits, that it contained plants, heterogeneous in their properties as well as their forms; since that period M. Correa has asssigned the true boundaries of the family; and all the species which compose it are found to offer great uniformity, both in their structure and properties. The whole of these trees have wood of a remarkably compact texture; the bark and the leaves are furnished with a great number of vesicles filled with a volatile oil, aromatic, bitter, and stimulating; which gives to these parts decided tonic and exciting qualities; the rind of the fruit participates in these properties; the pulp is always more or less acid, as we see in the different kinds of Citron and in the *Limonia acidissima;* the same acid is found, though in a less degree, in the Oranges and Siam oranges. This acidity, and a little bitterness, renders these fruits refreshing, and useful in fevers and in scurvy. In the countries where the Hesperideæ are common, they use many different species indiscriminately.—pp. 99, 100.

"34.—CRUCIFEREÆ.

"All who have studied Botany, know how much the Cruciferæ present of uniformity, in their botanical, chemical, and medical characters; and hence it may, perhaps, be regarded as superfluous, to enter into details concerning them.

"The whole of the Cruciferæ, contain a very acrid volatile principle, for a long time supposed to be alkaline, and regarded by many chemists as formed in the plants themselves. It is correct to

say, that, in their putrefaction, a considerable quantity, is disengaged; and that, by distillation, after fermentation, a certain portion is obtained; but neither their distilled water, nor their recently extracted juice, gives the least indication of alkalescence: we think, then, that ammonia does not exist, already formed, in the Cruciferæ, but that it is developed under certain circumstances, in consequence of the great quantity of azote, which these plants contain. It is probably to this azote, that we should refer the animal odour of the putrefying Cruciferæ; and, even, their great tendency to putrefaction; it is, perhaps, the necessity which they have for this principle, which causes them to grow, naturally, in such great numbers around the habitations of men and of animals.

"The acrid property of these vegetables, depends on a certain quantity of volatile oil; which may be extracted by different chemical processes, which possess the smell and taste of the Cruciferæ, and which is contained in small quantities, either dissolved or mixed, in their distilled water. This principle renders the Cruciferæ eminently stimulating: If it is concentrated, as we see it, for example, in mustard seed, and in the roots of the *Cochleariæ armoracia*, or, sometimes, in the herb itself, as in the *Lepidum latifolium*, then, the juice of these parts, applied upon the skin excites, first, a redness, afterwards an active inflammation, and, in the end, an effusion of serum: this is the remedy known to every body under the name of sinapism.

"If this acrid and stimulating matter be administered, internally, it acts upon the nervous, and afterwards, upon the sanguiferous system, when it excites either diaphoresis, or, more frequently, diuresis. Given in large and repeated doses, it acts as an antiscorbutic; and it is for this purpose, that the Cruciferæ are most frequently and usefully administered. We know that the habitual employment of these vegetables, prevents scurvy, probably by sustaining the tone of the system; and that the same plants often cure scurvy already developed, either by re-establishing the strength or by acting as sudorifics or diuretics.

"When this acrid matter exists in a slight degree, these plants may serve as condiments, of which cresses are an example; when it exists, united with a considerable portion of mucilage or of saccharine matter, the mixture is highly nutritive, as in the cabbage, radish, turnip, &c. But this increase of nutritive matter does not annihilate their antiscorbutic properties, for a slight fermentation, which decomposes the saccharine matter, disengages the acrid principle, and restores these vegetables to the class antiscorbutics, of which the Sour krout is a striking example.

"When the plants of the order Cruciferæ have a taste too intense to be agreeable, we employ different precautions to obtain them more or less bleached, when they become more juicy and insipid: thus we are enabled to employ for food the roots or the lower parts of the stems, of many species, the leaves of which are neglected, such

as the radish, turnip, &c. As in the Cruciferæ, which dispose their leaves into heads, as the cabbages, we choose, from preference, the central leaves, bleached and made tender by the absence of light: so we come, by different processes of cultivation, to make the flowers, in whole or in part, abortive, and thus to render the young shoots and the flower stems, a great deal more fleshy, and more mild and aqueous, as we see in the brocoli and cauliflower; sometimes we bleach, artificially, the stems, at the moment they sprout from the earth: it is by this culture that the English have made an agreeable pot-herb, of the sea-kale, so celebrated, formerly, among the Romans, as a coarse food reserved for the nourishment of the poor.

"The seeds of all the Cruciferæ contain a fixed oil, which, in many species, is so abundant, that it may be extracted with advantage, many examples of which we have, in the Colsa, Cameline, Rape, Julian, &c. When the fixed oil is mixed with a sufficient quantity of the pungent volatile oil, the seeds become, as I have already said, acrid, stimulating, diuretic, and sometimes anthelmintic.—pp. 111, 116.

"62.—UMBELLIFERÆ.

"Of all the families of plants, the medicinal characters of which we are rapidly tracing, there is not one which merits more scrupulous attention, than the umbelliferous; whether we refer to their dietetic and therapeutic importance, or to the anomalies which they present. In studying them, it will be necessary to attend with care, to the distinctions that exist among their organs, and even to those which their juices present.

"All the apparent anomalies of the order Umbelliferæ, seem to me to be explicable; by admitting that their extractive matter is narcotic, and their resinous principle, more or less stimulating and aromatic; or, in other words, that the sap, half elaborated, is narcotic, while, on the contrary, it becomes aromatic and stimulating when it is transformed into the true and proper juice. Let us follow the consequences, of this hypothesis, by applying it to each organ, in particular, and to the phenomena, in general, which the plants of this order present.

"Vegetable physiology teaches us, that the moisture of the soil enters the plant through the extremeties of its radicles; that it ascends through the body of the roots, and then mounts through the trunk to the branches; where, by an unknown chemistry, it is transformed into the proper juice, and returns to the root along the bark. The root then contains a great quantity of sap, not yet elaborated; and a certain quantity of proper juice, which has redescended through the bark; consequently, according to our hypothesis, the roots of the Umbelliferæ, should contain an aqueous mucilage, more or less insipid; and more or less aromatic, from the presence of the proper juice; they ought not to be dangerous, since they contain little or no extractive, and may, therefore, be edible and nourishing, for man;

as we find to be the case, with the roots of the carrot, parsnip, angelica, eryngo, &c., &c.; among which we only observe differences, more or less considerable, in the quantity of the aromatic, saccharine principles. The roots even of the poisonous Umbelliferæ, are sometimes salubrious; of which we have a curious example, in the *Ænanthe pimpinelloides*, the tuberous roots of which serve as food at Angers, under the name of *Jouanettes*, and at Saumur, under that of *Mechons*. Many of the Umbelliferæ, present, in their roots, a notable quantity of saccharine matter; thus according to M. Drapier, there is fourteen per cent. in the dried carrot, twelve and a half per cent. in the parsnip, and eight per cent. in the skirret. In the herb, on the contrary, we find a large quantity of extractive, mixed with, or dissolved in the sap; and which we obtain by infusion or decoction, in water. From the bark we may procure, a variable quantity of proper juice, more or less aromatic, or more or less resinous; consequently, in the natural state of things, the extract of the umbelliferous plants, ought to be narcotic, as we find it in the *Conium maculatum*, the *Cicuta virosa*, the *Æthusa cynapium*, &c., while, on the contrary, the proper juice, extracted from the bark, either by an incision, or by pharmaceutic manipulations, should be tonic, stimulating, or aromatic, as we see it in the *Galbanum*, *Opopanax*, Lovage, *Assafœtida*, &c. Further, if we employ, at different times, the bark and trunk, that is to say the sap and the proper juice united, the qualities of the mixture must vary, according to the proportions of the two principles.

"Finally, if we use the seeds, as we find in them, not only the sap, (at least when they have come to maturity) but a liberal quantity of volatile oil, lodged in their exterior integument, we ought to regard them as free from poisonous qualities, and endowed with aromatic, stimulating, and tonic powers; and in fact, these properties are common to the seeds of the whole of the Umbelliferæ in all countries.

"Let us approach the subject still closer, and we shall find, that the hypothesis, which I have stated above, explains even the variations which soil, age, and culture, occasion in the properties of the Umbelliferæ. Thus we know, in general, that aquatic plants contain, proportionably, a greater quantity of sap, than of proper juice; more mucilage and extractive, than oil and resin; therefore we should not be surprised, to see the Umbelliferæ more narcotic, when they grow in wet, and more hot and aromatic, when they vegetate in dry places; we may even conceive how those which are bleached, contain a sap scarcely elaborated, and might thus be assimilated to the roots of these plants; while, on the contrary, those which are exposed to a strong light, contain a larger proportion of proper juice.

"According to these considerations, I think that the Umbelliferæ conform to the laws of analogy, as I understand them; that is to say, that each juice and each organ, preserves the same nature and

the same properties, in each family. I will add, that the organ which furnishes the true botanical character of the family, viz. the seed, is that in which Chemistry and Medicine find the fewest anomalies.—pp. 159—163.

"94.—LABIATÆ.

"The Labiatæ constitute, perhaps, the most natural family to be found in the vegetable kingdom. The resemblance in their forms is such, that no botanist has yet attempted to disunite them; and it is, indeed, difficult to separate them into secondary groups or genera. The properties of these plants offer a resemblance quite as striking.

"All the Labiatæ are remarkable for their cordial, stomachic, and tonic virtues; we may distinguish, in the whole of them, according to the observations of M. de Jussieu, two principles—the one bitter, the other aromatic,—mixed in varying proportions. Their bitterness, which is communicated to hot water, appears to reside in a gum-resinous principle, which is found, more or less abundantly in every species; those in which it *abounds*, as the Scordium (*Tenerium scordium*), the Germander (*T. Chamadris*), &c., are particularly employed as stomachics; and even sometimes, as febrifuges; those, on the contrary, which are abundant in volatile oil, and which are, consequently, more aromatic, are used as heating, and exciting stimulants; the different mixtures of these two principles, and the particular state of each, have led to the designation of a great number of these plants to particular uses, in medicine and dietetics; some serving as condiments for our food—such as Marjoram, Summer Savory, Sweet Basil, &c., the others, furnishing by infusion, a slight tonic drink, which we take as tea; such as Sage, Balm, &c. Several Labiatæ reduced to powder, are employed as sternutatories and cephalics; for example, Marum, Marjory, and Lavender; others, as Thyme, Serpillum or wild Thyme, &c., are used as perfumes; while others furnish the distilled waters, of which so great a quantity is used, such as Balm, Lavender, Mint, and Rosemary named, improperly, the distilled vater of the Queen of Hungary.

"All of them can furnish a quantity, more or less considerable, of volatile oil; a product which is most remarkable, in the Thymes, Origanums, and Lavenders. Finally, the chemists have increased our knowledge of the uniformity of the composition of the Labiatæ, by showing to what a great extent they abound in Camphor. It was long ago remarked, that many of them exhaled the odour of that drug, and some crystals of it had been found by Gaubius, in the oil of Thyme, by Kunkel in that of Rosemary, by Kruge in that of Marjoram, by Cartheuser in that of Wild Thyme, &c. and M. Proust has lately proved, that it exists, even in quantities so great that it might be extracted with advantage, in the oils of Sage and Lavender; and, probably, in all the distilled oils of this order of plants.—pp. 231—234.

We might quote many other, and perhaps more interesting articles, but wish not to tire the patience of the reader. What we have laid before him, must produce the conviction, that plants which resemble each other in their botanical habit, also resemble one another, in their medical, economical, or dietetic properties; the proposition which our learned and ingenious author proposed to establish.

The third and last part of his Essay is brief. It embraces a tabular view of the orders, with a statement of their conformity or nonconformity to the law of analogy; we have not room for its insertion, and must content ourselves with a summary of general results:

"Of the 150 natural orders, known to botanists, there are,' says our author,

"Forty, which are either inert, or the properties at the present time, unknown.

"Twenty two, in which we may presume the law of analogy to exist, although we are, as yet, acquainted with the properties of but a small number of the species.

"Twenty, in which we must admit the law of analogy to be restricted to certain genera, while others are widely separated from them, by important characters.

"Thirty five, in which the law of analogy is evident, but still they present some exceptions.

"Thirty one, in which the law is entirely preserved.

"Three, in which it is violated; but in which we still find undoubted traces of its existence.

"Thus, the law of analogy between the forms and properties, is more or less true, in one hundred and nine orders, and scarcely false in three.

"I think, then, we may draw from this dissertation the following conclusions.

"1. The same parts, or the corresponding juices, in plants of the same kind, enjoy similar medical properties.

"2. The same parts, or the corresponding juices, in plants of the same natural order, possess analogous properties.

"3. The apparent exceptions to these two laws, arise from one or more of the following causes:

a. From the difference in the degree of distinction, real, although

not always recognized in botanical works, between the species of a genus, and the genera of a natural order.

b. From a false comparison between the organs of similar plants.

c. From the accidental, or temporary state, in which certain vegetables are, at the period when we are accustomed to employ them.

d. From the unequal mixture of different chemical principles, common to all analogous plants.

e. From differences in the mode of extraction or of preparation, a circumstance which modifies the nature of medicines.

f. From this, that we are apt to attach too much importance to properties which are purely accidental.

g. From this, that we do not compare with accuracy, the modus operandi of different medicines.

h. From this, that we do not examine, comparatively, the mode of application of medicines to the human body.

"4. Analogy (founded upon the probability of 109 against 3) leads us to think, that the orders constituting exceptions, which in the present state of the science, cannot be explained away, will come under the laws which we have laid down, when Medicine, Chemistry, and Botany, shall have attained to greater perfection. This is at least extremely probable, seeing, that since the first edition of this work, ten years ago, the number of exceptions has been greatly diminished. At that time, the law was only founded on the comparison of 85 to 7, while it now rests upon the relation of 109 to 3, or triple the former proofs."

With these extracts, we close our account of De Candolle's book. As far as we know, it has not before been presented to the notice of the profession, in America; and in our own language, we have not met with a single distinct and formal treatise, on the subjects which it embraces. The analysis, therefore, with all its imperfections, will not, we trust, be unacceptable to the majority of readers.

To make known the plan and merits of this work was one of our objects; the other was to recall the attention of the physicians of the United States to the cultivation of Botany. Twenty years ago, this delightful science was more attended to by them, than at present. This was chiefly owing to the late professor Barton; who might justly be styled the father of American Medical Botany. His "Collections" are repeatedly quoted by our author, and his "Elements of Botany" were

republished in England. We should like to see them in the hands of every student of medicine in the United States. After some acquaintance with the elementary works of Lee, Smith, and Willdenow, we do not hesitate to say, that, for the American student in Botany, they are preferable to either. Published nearly a quarter of a century ago, and little known to the majority of our readers, we might, without editorial impropriety, have made them the subject of a Review, designed to recommend the cultivation of Botany; but, in addressing ourselves to medical men, we preferred, as a text, a work professedly designed to illustrate one of the most important connexions between Botany and Medicine.

In regard to books on American Botany, a few remarks may not be out of place. Much, indeed most, of what has been written on the Botany of this country, has been by foreigners; and their works, generally, are not within the reach of the students of the United States. Not to go further back than to the *Flora Boreali Americana*, of the elder Michaux, we may say, that scarcely any book of science is more seldom met with in this country. The *Sylva Americana*, of his son, recently translated, is oftener seen in our booksellers' shops, and the plates which embellish it are of the first order of excellence; but, as its name imports, it is limited to our forest trees; and, in reference to them, is rather economical than botanical. It is not, in short, the kind of practical book which the student requires. The next in order of time is the *Flora Americæ Septentrionalis*, of Pursh, in 2 vols. 8vo, published in 1814. It embraces the general Botany of the United States, and professes to give a description of all the known American plants, up to the period at which it was written. Of course, it contains many species, and a number of genera, not before embodied in any systematic work. The author, a German, resided long, and travelled to some extent, in the United States, especially east of the mountains; and his work was, therefore, a substantial addition to our *Bibliotheca Botanica*, but still it seems to have attracted no great degree of attention. It is mortifying to be compelled to suspect, that the circumstance of his specific descriptions being in the Latin

tongue, has limited the circulation of his book among the medical profession of this country! To Pursh's book succeeded the *Genera of North American Plants* of our friend Mr. Nuttall, at present, the keeper of the Botanic Garden, attached to Harvard University. It contains a description of the genera, and a catalogue (not descriptive) of the species, known up to 1817. Mr. Nuttall is an Englishman by birth, but has resided long in the United States; and no botanist has ever explored them (particularly the western, almost to the Chippewan Mountains) with a more untiring step. His book is cheap, and should be in the hands of every student of American Botany. With it, and the practical work of Mr. Pursh, and the Elements of Professor Barton, no young man of industry and observation, could be long, in acquiring a competent knowledge of the plants which might surround him.

The works of the two Michauxes, of Pursh, and of Nuttall, are *general*, and we have, therefore, recommended them; but there are others of great merit, which relate to particular districts, and should be in the possession of the students who reside in them, respectively. Of this kind, to quote from memory at the moment, are the *Flora Lancastriensis* of the late Dr. Muhlenburg; the *Flora Philadelphiensis* of Dr. W. P. Barton; the *Florulæ Cestrica* of Dr. Darlington, a pupil of Professor Barton, the *Florula Bostoniensis* of Professor Bigelow, in the opinion of the late Abbe Correa, destined to be the Linnæus of America, but who seems to have abjured the practice of Botany; Dr. Torrey's Botany of the Northern States, and Mr. Elliot's Flora of South Carolina—all published in the United States, and, therefore, within the reach of its students and physicians.

Of foreign systematic works, the best for the American student, is Turton's edition of the Systema Naturæ of Linnæus; but it can by no means be substituted for those which have been named.

We may be asked, however, whether it will not be sufficient for physicians to obtain and study the writings of Woodville, Barton, and Bigelow, on *Medical* Botany? We answer,

No. These are valuable works, and the two latter, especially, should be in the library of every American physician; but he cannot study them without an acquaintance with the elements of Botany, nor with such an acquaintance can he become a medical botanist, without first acquiring some knowledge of general Botany.

To this end he should collect and arrange an *Herbarium* or *Hortus Siccus* of the plants within his reach, an undertaking of easy and most progressive accomplishment. The observance of but a few rules is necessary. We may state the most important.

1. Collect a specimen in flower, and whenever practicable, another in fruit.

2. When the fertile and infertile flowers are seated on different plants, or different parts of the same plant, collect specimens of both.

3. Place the specimen, before it has *wilted**, between leaves of paper (the finer its texture, the more beautiful will be the appearance of the specimen) and subject it to pressure for 24 hours. Then place it in a fold of fresh paper of a common quality, and remove it from day to day, until it has become dry. During the period of exsiccation a gentle pressure only should be employed.

4. When thus prepared, the specimens representing a species, should be fastened with slips of paper and paste to the third page of a sheet of white paper; on which should be inscribed the class, order, genus, and species of the plant, in the method of Linnæus, and, if possible, its natural order. To

* We beg pardon of our brother criticks, for employing a word not to be found in the English nor even in the American classicks. *Wilted*, however, is neither a new word nor an Americanism; and although not generally used by our writers, deserves to be. A wilted plant is in a state of suspended animation or a kind, of fainting fit: a withered plant is actually dead and dry. The former can be revived; the latter cannot. The two states differ widely in their external symptoms, as well as their internal constitution, and cannot, therefore, be expressed or described by the same word. The young plant transferred from the spot where it germinated, is *wilted* by the meridian sun; but the following night it may recover its erect position;—if it should not in three days, it will be *withered*.

which should be added its locality, times of frondescence and flowering, and its popular name.

5. The species should now be arranged into genera, within the duplicatures of larger papers, and these bundles disposed into orders and classes, on the shelves of an *Herbarium*, in a dry situation. In periods of great humidity, it will be necessary to expose them to the open air, to prevent their moulding. The *acarus* and other minute insects which prey upon them, may be repelled or destroyed by camphor, or a solution of the deuto chloride of mercury, in distilled or rain water.

It is unnecessary to add other instructions; and, admonished, by a feeling of weariness, of what our readers are likely to suffer, if longer detained, *in sylvis tenebrosis*, we shall now permit them to escape.

MISCELLANEOUS INTELLIGENCE.

I. ANALECTIC.

1. Biancini *on the communication between the blood vessels of the Uterus and Placenta.*—M. Biancini injected the blood vessels of a woman who died in child-bed with inertia of the womb, the placenta being still undetached from the uterus. He found the injection in the vessels of the chorion and amnios; and having examined the tortuous arteries of the uterus, he found that they penetrated the tissue of the placenta, spread themselves over its membranes, and deposited the injection in the cells described by Hunter and Meckel. In a young woman who died eight days after delivery, a small portion of placenta retained its adherence to the womb. In this case, injection forced into the uterine arteries, not only passed into the residuary portion of placenta, but also was extravasated into the cavity of the womb, and into the vagina, from the lacerated ends of what he calls utero-placental arteries.

But the most extraordinary facts in support of M. Biancini's opinions, are those elicited from the examination of the subject in brutes. Not only did he find in cats, that the colouring matter of fine injection passed to the umbilical vein, but he actually found the vermilion to have tinged the vena cava superior, and some of its smallest ramifications. Such at least is the statement in the Journal des Progres. We see not very readily why the vermilion should be found in the *upper cava.*

M. B., to make assurance doubly sure, next inverted the modus operandi. He injected mercury into the umbilical arteries of a calf, and found not only that it passed into the placenta, but directly into the uterine veins, by nine short cylindrical branches, which he calls placento-uterine veins.—*N. A. M. & S. Journ. for July*, 1828.

2. *New Views of the Fœtal Circulation.*—We find in the Bulletin des Sciences Medicales for February, a notice of the work of Dr. H. Fr. Kilian, published at Carlsruhe, in 1826.

In the work is contained an account of the development of the heart of the fœtus, from its first appearance until the third and fourth month of gestation. M. K. asserts that, in the early stages of pregnancy the inferior cava opens both into the right and left auricles, by distinct mouths. At the commencement, the *left* opening is much the largest; but towards the close of the ninth month, the *right* has become much the largest. The valve of Eustachius and the valve of the *foramen ovale* constitute part of the inferior cava.

and are to be considered as duplicatures or prolongations of the internal coat of the vein. These valves appear to be formed at the same epoch; but the valve of Eustachius is more rapidly and perfectly developed than the other. The valve of Eustachius, which principally constitutes the orifice of the inferior cava of the right auricle, serves to direct the two great columns of blood brought by the superior and inferior venæ cavæ, so that one may pass before the other, without interference or mixture. The valve of the foramen ovale, or rather the left half of the lower cava, is a *vascular branch:* its use is gradually to effect the exclusion of the *cava inferior* from the left auricle, and favour its passage or transfer to the right auricle. The septum of the heart is not perforated; the foramen ovale passes behind it through a notch. There is, properly speaking, no pulmonary artery in the fœtus. The trunk that bears the name, is continuous with the *canalis arteriosus*, and constitutes the origin of a vessel which goes to the lower half of the body, and may be named *abdominal aorta*, to distinguish it from the cerebral aorta which rises from the left ventricle; so that the fœtus has a double arterial circulation, one derived from the right ventricle, which goes to the body, and the other from the left, which supplies the head.

M. Kilian's doctrine of the fœtal circulation is as follows. Blood comes from the cells of the placenta, through the umbilical vein to the liver; it is there divided into two unequal portions, the largest of which circulates in the vessels of the liver, while the smaller portion goes through the *ductus venosus* into the vena cava. Here the blood of the ductus venosus, of the liver, and of the lower extremities, is mixed. Just before it enters the heart, the current is divided, as above stated; one stream enters the right at the same moment that the other enters the left auricle. Upon the contraction of the auricles, the ventricles are filled, and, in their turn, they throw it out *without any mixture taking place;* for that of the right goes to the descending aorta exclusively, and that of the left is distributed upwards. The author asserts, that if different coloured injections be thrown into the aorta and pulmonary arteries of a fœtus, at the same moment, no mixture of colours will take place. The rest of the circulation, namely back into the veins, he explains in the ordinary manner.—*Ibid.*

3. *Puerperal Peritonitis cured by Ice.*—A female was seized with severe symptoms of peritonitis on the fourth day after parturition. She was bled to ℥16; ice water for drink, and ice to the abdomen. In three hours, the severity of symptoms was diminished; thirst and vomiting had disappeared; abdomen less tumid, and pressure less painful. In the evening, amelioration still greater; the belly quite soft; a natural stool occurred, and the patient had some sleep. The application of ice was alone continued, and next day perspiration came on. The mammæ filled with milk; the lochiæ soon appeared, and in four days no symptom of peritonitis remained.—*Ibid.*

4. *Congenital absence of Sensation and voluntary Motion in a Female.*—This girl was born rather prematurely. She gave no sign of the usual instinctive desire for the breast; was, with difficulty, taught to suck, and appeared to be very feeble. One eye was smaller than the other. A few weeks after birth, she was seized with convulsions: no medical prescriptions had any power to restrain them, and they exceeded a hundred in twenty four hours. As she continued to grow in length, the defects in motion and sensation became more apparent. Blindness came on; she became quite deaf, and never had a second dentition. Taste seemed tolerably perfect. She never acquired any thing like the power of voluntary motion, and attained the 17th year without having held up her head, raised her hand to her mouth, or set her foot to the ground. She never uttered any thing like an articulate sound, and a feeble cry or whine was believed to indicate the want of food. When fed with sweet articles, the countenance exhibited an expression of satisfaction.

She never had a stool without medicine, and never acquired any command over the sphincters. On the day when she completed her 17th year, she died in a manner so gradual, that the attendants thought her asleep, when she was really dead.

With regard to the morbid appearances on dissection, the following alone seem to possess any interest.

On removing the brain from the basis of the scull, so as to expose the nerves, he could trace each pair taking their usual course to their destination; and they all appeared firm and healthy, as in the most intelligent individual. But in the base of the scull itself not a vestige of the dura mater was to be seen. Its place was supplied by a thin semitransparent membrane, very lax and irregular, so that it afforded no protection to the nerves in their exit from the scull.

On the back part, likewise, the whole or the greater part of the *tentorium* was deficient, thus allowing the whole weight of the brain to rest on the cerebellum.

The author's opinion is, that the girl's deficiencies were occasioned by the want of dura mater on the base of the scull, the mass of brain being thereby allowed to press on the nerves of sense as they passed through their separate foramina, and thus their vital principle became destroyed; and that the cerebellum, not protected by a tentorium, was also pressed upon by the cerebrum, which also suffered in its turn.—*Ibid.*

5. *Tetanus.*—M. Lepelletier, surgeon in chief to the hospital at Mans, has always found, when dissecting cases of traumatic tetanus, that there were very visible traces of phlegmasia in the meninges of the medulla spinalis, especially of the arachnoid at the roots of the nerves, and over the latter, during their progress through the spinal canal. After a case of well characterized tetanus with trismus, opisthotonos, &c., the sacral nerves, especially the sciatic, exhibited spots and numerous striæ of a vermilion red. When divided longitudinally, the nerves presented the same striæ; and when cut trans-

versely, exhibited a multitude of bright red specks, which were the orifices of vessels. All these appearances existed in the neurilema, either in the portion covering the nerve, or in that which separated its different fibrillæ; but principally in the former. If one of these divided nerves was pressed, it gave issue to a considerable quantity of blood. The medulla spinalis, when simply laid bare, exhibited bluish striæ, and its tunics seemed distended by a fluid. The fibro-cellular membrane, (?) when incised throughout its whole length, contained, on the inside, numerous red patches, especially at the origin of the nerves: and the arachnoid was particularly remarkable for a vascular network very strongly marked.

The arachnoid of the brain was considerably injected, but presented neither patches nor adhesions.

In another case of tetanus, the disease was provoked by the left arm having been crushed; and the first tetanic symptoms were manifested in the arm. The neurilemas, principally of the ulnar and median nerves, were red, and inflamed quite up into the axillary plexus. The spinal pia mater and arachnoid showed many strongly marked inflammatory spots; but all these appearances were confined to the side which had received the injury. The strongest characteristic marks of inflammation were found in those parts of the medulla spinalis which were most in connexion with the brachial nerves, the first point of departure of the neurilematic inflammation. It is exactly in those muscles, whose nerves arise from the portion of the spinal marrow already pointed out, that the propagation of the disease was observed. Thus the respiratory muscles exhibited the tetanic stiffness in all its force; and the patient was several times on the point of suffocation from the mechanical suspension of respiration; while the trismus was only consecutive, and the jaws could be separated to the very moment of death.

The resemblance of these views to those of Dr. Saunders, of Edinburgh, will be noticed.

M. Lepelletier concludes, from these and other cases, that tetanus is an inflammation of the neurilema of the nerves and spinal marrow; (would he not include the trigeminus of the head in the case of trismus?) that traumatic tetanus spreads from the cirumference to the centre, thus attacking the nervous tree from the branches to the trunk; that tetanic patients die from exhaustion, with the exception of those instances in which respiration is actually suspended long enough to produce a true asphyxia; and, finally, that the rational treatment for this formidable malady must consist in lowering the vitality of the injured organ in particular, and of the whole economy in general.—*Ibid.*

6. *Mercury absorbed into the System.*—The analysis lately made in the chemical laboratory of the faculty of Paris, of the mammary and salivary glands, mesentery and large intestines, of a young woman who had fallen a victim to a puerperal peritonitis, and who during the disease had been subjected to large mercurial frictions (12 oz.

5 dr. in the course of twelve days), exhibited mercury in its metalic state in these organs. This result, though opposed to the assertions of many chemists and a great number of physicians, confirms the researches of Fourcroy, Dumeril, Orfila, and Cruvelhier, who have discovered mercurial globules in the bones, cerebral substance, and nerves; and no longer allows us to doubt of the fact, notwithstanding the warmth with which it has been, at different epochs contested, and the ridicule attempted to be thrown on it.—*Ibid.*

7. *Amputation of the Lower Jaw.*—This operation has now been so frequently executed with success, that surgeons are directing their attention to the best means of preventing, as much as possible, the subsequent deformity. The enterprising and active surgeon, M. Lisfranc, in November last, extirpated the left portion of the lower jaw from the chin to the ramus, for a sarcomatous tumour involving the bone, extending under the tongue, and contaminating, in a slight degree, the lymphatic glands. To prevent the deformity, M. Lisfranc, instead of making the ordinary transverse incision across the cheek, made a perpendicular cut from the middle of the free border of the lip to the base of the jaw, dividing all the soft parts to the bone. The incison was continued an inch further in the same direction; it was then made transversely from before, backwards to a point one quarter of an inch below and before the angle of the jaw, and extending only through the skin and cellular tissue. The flap thus formed was dissected upwards, and the bone and diseased mass extirpated in the usual manner, without any troublesome hemorrhage. The fluids from the mouth and wound had a free outlet in a depending position; part of the wound healed by the first intention, part by granulation; and a fistula, kept up by the discharge of saliva, &c., was formed on the side of the neck. M. Lisfranc succeeded in curing it, by placing in the mouth, at a point corresponding to the external orifice, a small piece of sponge which absorbed the fluids that retarded the cure. The sinus then healed in four days. Little deformity resulted; the cicatrix being nearly covered by a cravat. The left side of the jaw is but slightly depressed; while the right side has deviated a little to the left, but can easily be replaced in its ordinary position. The left ramus of the bone is carried a little inwards. The patient speaks with much distinctness and can take solid food.—*Ibid.*

8. *Writ for the Medical Convention of* 1830.—Whereas the Convention that was held at the City of Washington, in the month of January, 1820, for forming a Pharmacopœia for the United States of America did resolve that the President of that Convention should, on the 1st day of January, 1828, issue Writs of Election to the several incorporated State Medical Societies, in the northern, middle, southern, and western districts of the nation, requiring them to ballot for three Delegates to a General Convention, to be held at Washington, on the 1st day of January, 1830, for the purpose of revising

the American Pharmacopoeia; and whereas the several Institutions, as aforesaid, are, by the same authority, requested to forward to the President, on or before the first day of April, 1829, the names of the three persons so chosen, with sundry other provisions contained in the historical introduction to the work, to which the reader is referred:

Now, therefore, I SAMUEL L. MITCHILL, by virtue of the power vested in me by the Convention of 1820, do hereby give notice to all the incorporated Medical Societies, Colleges of Physicians and Surgeons, Medical Schools, and Faculties of Universities and Colleges, and all other authorized Bodies, that they choose proper persons to represent them in the General Convention to be held in January, 1830, for revising the Pharmacopoeia.

Given under my hand, this first day of January, 1828, at the City of New York.

SAMUEL L. MITCHILL, *President.*

9. *Treatment of Poisoned Wounds.*—M. ANTOINE VERNIERE has very recently announced to the Academy of Sciences a new method of treating poisoned wounds, which is, to say the least of it, ingenious, and philosophically deduced from the late discoveries in the physiology of absorption, and which, if it stands the test of future experiment, will render the treatment of external poisoning exceedingly simple. The reader who is acquainted with the progressive researches of M. Magendie on venous absorption, will remember that physiologist discovered that absorption is impeded, or even entirely prevented, by producing an artificial state of venous plethora, by injecting tepid water into the veins. M. Verniere's method of cure consists in taking advantage of this discovery, establishing a general venous plethora, and then removing the plethora as nearly as possible from that part only where the poison had been introduced, by opening a vein proceeding from the part. Thus, three grains of the alcoholic extract of nux vomica were thrust into the paw of a dog, and a tight ligature was without delay tied round the limb. Warm water was then very slowly injected into the jugular vein, to as great an extent as the animal could safely bear, and the ligature was removed. Half an hour was then allowed to elapse, which, in ordinary circumstances, would have been much more than sufficient to enable the poison to act. The ligature was next replaced, but so as to obstruct the venous circulation only, just as in performing the operation of venesection; the principal vein of the limb was then opened immediately under the ligature, and the blood which flowed out was collected. The blood was then carefully washed away, a little more was allowed to issue, and the ligature was finally removed. None of the symptoms of poisoning with nux vomica ensued, and the slight signs of venous plethora which remained were removed by a bleeding from the jugular vein. The blood which had been withdrawn from the vein of the fore-leg, when cautiously injected into the vein of another dog, caused violent tetanus and almost instant death.

The explanation given by M. Verniere of the mode in which this operation effects the removal of the poison, is the following:—"The only blood which can become impregnated with the poison, is that which flows through the open vein; for it is only that vein and its branches which are relieved from the artificial plethora, and so rendered capable of carrying on the function of absorption. On the other hand, by means of the ligature, the current of the blood taking place from the artery only towards the opening in the vein, the poison introduced into the vessels is forced to follow the course of the blood, and is consequenrly thrown out of the system with it. "Absorption, so deadly in all other circumstances, is thus converted into the means of safety. It searches for the poison in the depths of the tissues, and transports it into the veins, to be thence expelled from the body." The general venous plethora is in another respect advantageous: It enables us to transmit, without fear of syncope, a considerable quantity of blood through the poisoned tissue, so as to clear it of the remains of the poison by means, as it were, of an internal washing."—*Am. Med. Recor.*

10. *Case of Death caused by the external application of Opium.*—The application of opium in considerable quantity, to the skin when deprived of its cuticle, is a practice by no means free from danger; and when it is resorted to for allaying irritation, it is necessary to watch the patient carefully. We are acquainted with an instance in which deep coma was induced by the application of an opium poultice to the scrotum previously deprived of the cuticle by a blister, and which would in all likelihood have proved fatal, had not one of the patient's friends called accidentally to see him, and discovered the cause of the state of sopor. The following is an example of death originating in the same source, although the skin was not deprived of its cuticle. A soldier, thirty two years of age, was attacked with phlegmonous erysipelas of the fore and outer part of the right leg, on account of which a linseed poultice, moistened with *fifteen drops* of laudanum, was ordered to be applied to the limb. Next morning he was found in a state of deep sopor, with the face pale, the eyelids tremulous and half open, the pupils contracted, the lips distorted, the muscles of the face affected with spasm, and those of the limbs with convulsions. The surgeon having remarked a strong odour of opium, as well as a yellow coloration of the bandage which enveloped the limb, he had it removed, and found not only the bandage, but all the compresses soaked with laudanum, which was flowing copiously from the poultice. The attendant whose duty it was to make up the poultice, had left it in charge to a hospital servant, without telling him what quantity of laudanum was to be used; and the latter had ignorantly used towards an ounce. Antispasmodics, emetics, and sinapisms, were resorted to; but in vain. The convulsions increased, the pulse became more and more feeble, and the patient died. On inspection, some red points were seen on the arachnoid, a strong opiate odour was exhaled from all part , and the heart, stom-

ach, and brain, were in a healthy state. In the blood vessels no trace could be found of the poison which had been absorbed.—*Ibid.*

11. *Sounding the Internal Ear in Deafness.*—New improvements and discoveries in practical surgery are almost daily occurring. Civiale's lithontritia, Dupuytren's vital dilatation of stricture of the urethra, Deguise and Beclard's operation for wounds of the duct of the parotid gland, the restoration of the superpubian, or high operation of lithotomy, Higginbotham's application of nitrate of silver externally in several kinds of inflammation, besides many other processes which it would be too tedious to attempt in this place to enumerate, but which must have been noticed by all the diligent readers of the Recorder, are more than sufficient to demonstrate the flourishing state of this important branch of the healing art.

Where deafness is owing to obstruction of the Eustachian duct and disease of the internal organs of hearing, M. Debau the younger, has succeeded in removing it by inserting a tube, which he calls a sound, into the duct, and through it introducing air in order to distend it, and to expel mucus or other matter. Two cases are related, in which he perfectly succeeded in the operation, and the restoration of the hearing was complete. One of them was an obstruction of the internal orifice of the Eustachian duct, the sequel of a chronic inflammation, which had frequently reached to the cavity of the tympanum; the second was a chronic inflammation of the Eustachian duct, with contraction. In the first case, the restoration of hearing was instantaneous, as soon as air had been introduced to distend the cavity. In the second patient, several trials were necessary, as it was some time before the end of the instrument, by proper and moderate force, could penetrate into the cavity of the tympanum.

It is obvious, that the most minute anatomical knowledge, and a happy manual dexterity, ought to be possessed by the surgeon who would expect to succeed in introducing the instrument. The operation is asserted to be neither disagreeable nor painful, in any peculiar degree, to the patient.—*Ibid.*

II. ORIGINAL.

12. *Report on the Diseases of Cincinnati in the Spring of* 1828, *concluded from page* 176—*June number.*—4. *Ague and Fever.*—Cases of Ague occurred this Spring, as usual, and, indeed, had presented themselves though, less frequently throughout the Winter. In almost every instance the individual affected, had experienced some form of autumnal fever in the preceding year, or two years before. We feel justified in the conclusion, therefore, that our vernal intermittents are

in reality but relapses. Their predisposing cause, at least, is the morbid impress of the foregoing year. For their immediate reproduction an exciting cause, in general, some violation of the *non-naturals* (to revive the quaint nomenclature of our professional ancestors) was necessary.

The symptoms which they exhibited were various. In some cases they assumed the character of periodical headache or *sun pain;* in others the paroxysm consisted chiefly in pains and achings of the muscles and periosteum of the long bones; in some there was but little chilliness and a great deal of yawning; in others the cold stage amounted to a shake; in all, the hot stage was either slight, or, if violent, of short duration. The type was, in different cases, both tertian and quotidian. In some instances the complaint assumed a congestive or malignant aspect; but it was in aspect only, for we met with no case in which it proved fatal, as the malignant intermittents of Autumn are wont to do. A few individuals had repeated attacks; the distance between them, and the number of persons affected becoming less and less, as the weather became warmer. The subjects of it were chiefly emigrants from aguish situations, or inhabitatns of Cincinnati who had travelled the preceding year.

Vernal intermittents are often complicated with enlargements of the liver and spleen, especially the latter; which are the consequences of repeated attacks of fever; and by augmenting the debility of the patient, increase his liability to relapses.

In the treatment of the vernal intermittents of the present, as of preceding springs, we have not found a debilitating method efficacious. We met with no case, in which *bloodletting* was required. *Emetico-cathartics* were, in general, requisite; if, indeed, a deranged state of the secretory functions of the liver and gastro-enteritic membrane call for that class of medicines. We were accustomed to administer them; but are by no means satisfied that they are always necessary. Our reliance was on *tonics* and *stimulants;* and, in the results of their liberal exhibition, we were seldom disappointed. Our practice was to commence their administration at the earliest pos-

sible period of the attack; and to continue it through the paroxysm as well as the intermission. We have, in some cases, employed the *bark*, in substance, united with powdered *cloves*, and the *bitartrate of potash*. In this composition the spice reconciles the stomach to the impress of the bark, while the hydragogue and diuretic virtues of the bitartrate, contribute, signally, to the prevention, or removal of the visceral enlargements of which we have spoken.

And here we may take occasion to say, that for the cure of the enlarged spleen or ague cake, we know of no more successful method, than the administration of tonics and diuretics, combined. Of the former the bark is the most powerful and appropriate: of the latter, we have found the nitrate, and bitartrate of potash and the squill, most successful. In these cases, general corroboration and increased secretion, are the conditions requisite to a cure; and, if it be attempted by either method, alone, the success will be less perfect. Whatever plan is adopted, however, we must persevere, for weeks, and, sometimes, even for months, before a cure will be effected. But increased renal secretion is not the only kind that will answer in these cases. Much may be done by exciting the liver; for which purpose, the *pil. hydrargyri* may be administered in suitable portions, at night, the bark being given by day. Or, we may act on the intestinal mucus membrane, with jalap or the compound powder of that root, united, with the cinchona. But we must return to the subject of Ague and Fever.

Within the last three months we have repeatedly substituted the *sulhpate of quina*, for the bark itself, in vernal intermittents, and have found it successful. In several instances, we have united it with the *sulphate of morphia*. The following formula has answered, in most cases:

℞. sulph. quin. gr. viij.
—— morph. gr. j.
Mix and divide into 8 powders.

One to be taken every two or three hours, without any regard to the paroxysm. In some instances the proportion of sulph. morphiæ was found too large; and in others the sulph.

quinæ too small. Mitigation of fever, tranquility, and perspiration, generally followed on the use of this compound. In a few cases, we saw it ejected, apparently in consequence of the gastric irritation which itself excited; but, by perseverance, the stomach, at length, became quiet, and the desired effect was produced.

We shall only add, that we have found an attention to the state of the skin, and the daily use of small quantities of bark, or some other bitter, the most effectual means of preventing relapses.

13. *Diarrhœa.*—In common years, we are not presented with cases of diarrhœa, till near summer. In the present spring it was otherwise. Early in May, when there was no intense heat, nor any obvious atmospheric cause; no inconsiderable number of persons, chiefly young men, were attacked with this malady. It was not in general attended with vomiting. Some of them had considerable fever, and in some, the symptoms strongly inclined to those of dysentery. We heard of no fatal case. It continued to prevail for two or three weeks. The treatment required was simple. An emetico-cathartic, followed by the compound powder of ipecac, when there was fever, or by a pill of opium, when no fever was present, generally moderated all the symptoms, and sometimes even effected a cure. In other cases it was necessary to administer a second cathartic after the suspension of the peristaltic action by the opiate, and then to quiet the system by the action of a second anodyne. After which, recovery in general took place, without further difficulty.

In the latter part of May, cholera and dysentery began to show themselves, as usual; but being strictly summer epidemics, we shall omit any notice of them, until we come to make report of the diseases of that season.

14. *Fractures of the Thigh.*—The great number of contrivances, which have been offered to the profession, for the cure of fractures of the thigh bone, prove that a good method has not yet been invented. In the United States no apparatus is in such general use, as that of Desault; but, I believe, few practitioners are satisfied with it, or any of its modifications.

We have ourselves been followers of the great Parisian surgeon; but have encountered the same difficulties with our brethren. The soft parts at each extremity of the limb have, generally, become excoriated; and the patient so restless under that condition, united with his long continuance in an irksome position, that when the time for reunion had arrived, it was almost impossible to maintain the necessary degree of extension.

Considering that, in reference to the proper length of the limb, extension is not required for the first eight or ten days, during which the difficulty of maintaining it, from the fulness of habit and unsubdued muscular power of most patients, at the time of the accident, is far greater than at any other period, we were lately induced, in the case of a boy ten years old, to omit the application of the apparatus, till the second week after the casualty.

When called to the patient, we applied a muslin roller, moderately tight, from the toes to the hip of the affected limb, then placing the patient on his back on a hard bed, we drew up and flexed both knees, over a double inclined plane formed out of bed clothes; and, finally, with another, bound the two legs together throughout their whole length. The patient was left in this position, till the inflammation and fever consequent upon the injury, had subsided, and by abstinence and other antiphlogistics, he was brought into a state of general relaxation. The apparatus of Desault was then applied, and adequate extension effected, with but little difficulty or excoriation. In due time the patient was released from confinement; when his limb was not shortened in the least, nor in any manner deformed.

We would here ask, whether in all the latter stages of the treatment, the limb might not as well be placed over the double inclined plane, and supported by the other, as to be kept in the splints of Desault. As soon as the new osseous matter has acquired a tolerable degree of induration, it is probable, that the weight of the leg, and the support of the other limb, would be quite sufficient to prevent shortening and deformity. Thus the period of permanent extension might,

perhaps, be reduced to a single week; and by resorting twice to the method of Pott, and once to that of Desault, the sufferings of the patient would be mitigated, while the chances of decrepitude might be lessened.

Not being professional Surgeons, we throw out these little hints, without pretending to know all that may have been suggested by others; and, in no feeling of anxiety for the manner, in which they may be received by the profession.

15. *Our Board of Health.*—More than twelve months ago, the City Council of Cincinnati instituted a Board of Health; and delegated to it a variety of advisory and other powers. As yet, we believe, the public have been favoured with no manifestation of its wisdom; but whether from its *vis inertia*, so characteristic of learned bodies, or the previous excellence of our police, rendering all interference superfluous, we are not fully informed. It is believed, however, that the said conservators of the public health, have but seldom been together; and that various parts of the city abound in evidences, that its police regulations are susceptible of improvement. We would respectfully suggest to the Council, the propriety, of constituting the Board, in future, *entirely* of medical gentlemen; who, to avoid the imputation of willingly suffering the public causes of disease to multiply upon society, would be induced to discharge their duties with vigilance, and good will. Meanwhile we are happy to be able to say, that, notwithstanding every appearance of neglect, the city was never healthier, in July, than at present.

16. *Splendid Engravings of American Birds.*—We have been lately favoured with the prospectus of a work on the birds of the United States, by Mr. J. J. Audubon, well known in these interior states, and for some time one of the artists of the Western Museum, in this city. When in that situation, we had frequent opportunities of inspecting his coloured crayon, drawings, of the birds of this country, and can bear testimony to their great beauty and fidelity. Mr. Audubon is now in London, where his publication is to be made. We deem the following extracts, from his prospectus not inappropriate, for a journal which circulates, extensively, in the re-

gion of country which has supplied the very originals to which he refers.

"To those who have not seen any portion of the author's splendid Collection of original Drawings, it may be proper to explain, that their superiority consists in every specimen being of the full size of life, portrayed with a degree of accuracy as to proportion and outline, the result of peculiar means discovered and employed by the author, and lately exhibited to a meeting of the Wernerian Society. Besides, in every instance where a difference of plumage exists between the sexes, both the male and the female Birds have been represented. The author has not contented himself with single profile views of the originals, but in very many instances he has grouped them, as it were, at their natural avocations, in all sorts of attitudes, either on branches of trees, or amidst plants or flowers. Some are seen pursuing with avidity their prey through the air, or searching diligently their food amongst the fragrant foliage; whilst others of an aquatic nature swim, wade, or glide over their allotted element. The insects, reptiles, or fishes, that form the food of the birds, have been introduced into the Drawings; and the nests of the birds have been frequently represented. The plants are all copied from nature, and the botanist, it is hoped, will look upon them with delight. The eggs of most of the species will appear in the course of publication.

"The great interest which has been excited by the exhibition of these Drawings, and the flattering praise which has been bestowed upon them in Edinburgh, Liverpool, and Manchester, have induced the author to publish Engravings of them, upon a scale of elegance never before attempted in this or any other country. He has been encouraged to commence such an arduous undertaking, at the suggestion of some of the most eminent naturalists both in America and Great Britain; and he is proud to acknowledge, that their patronage has been extended to him towards the encouragement of the work; and he trusts to their support and that of the public, enabling him to complete one of the most splendid publications which has ever appeared."

The work will consist of 300 figures, all as large as life; and coloured according to nature. When completed, it will cost about $560. We are happy to see, attached to the prospectus, a list of 120 subscribers, headed by George IV.

Gentlemen in the United States who wish to subscribe, may address themselves to *Mr. John James Audubon, No. 95, Great Russell Street, Bedford Square, London.*

WESTERN MEDICAL LECTURES.

17. *Medical College of Ohio.*—The Lectures of this Institution will commence on the first Monday in next November; and will continue without intermission, till the end of the ensuing February, on the following subjects, viz:—

Anatomy and Physiology, by JEDEDIAH COBB, M. D.
Materia Medica, by CHARLES E. PIERSON, M. D.
Surgery, by JESSE SMITH, M. D.
Chemistry and Pharmacy, by Rev. ELIJAH SLACK, M. D.
Obstetricks and Diseases of Women and Children, by JOSIAH WHITEMAN, M. D.
Theory and Practice of Medicine, by JOHN MOORHEAD, M. D.

The price of the Anatomical Ticket is $12; that of each of the others is $10.

The fee for Matriculation, including the use of the Library, and admittance to the Hospital, is $3. In the Hospital, (the Commercial Hospital and Lunatic Asylum of Ohio) a regular course of Clinical instruction is delivered on the most important of the cases presented.

The cost of graduation is $21, being three dollars to each Professor and three for the Diploma. The Commencement for conferring degrees, is held immediately after the close of the Examination at the end of the Session.

From its connexion with the Commercial Hospital and Lunatic Asylum of Ohio, this Institution furnishes, beyond question, such opportunities of acquiring anatomical knowledge, as cannot be *surpassed* elsewhere in the Western country.

By order of the Faculty,
JEDEDIAH COBB, DEAN.

Medical College of Ohio, Cincinnati,
July 9th, 1828.

18. *Transylvania University—Medical Department.*—The Medical Lectures will commence, as usual, on the first Monday of November, and terminate on the first Saturday of March.

Benjamin W. Dudley, M. D., on Anatomy and Surgery.
Charles Caldwell, M. D., Institutes and Clinical Practice.
John E. Cooke, M. D., Theory and Practice of Medicine.
William H. Richardson, M. D., Obstetricks and Diseases of Women and Children.
Charles W. Short, M. D., Materia Medica and Medical Botany.
James Blythe, D. D., Chemistry and Pharmacy.

Each Professor lectures daily, Sabbaths excepted. The Ticket to the anatomical and surgical course is $20; each of the others is $15. Matriculation, with the use of the Library, $5. The Graduation Fee is $20.

C. W. SHORT, M. D., Dean.

Lexington, Kentucky, July 28th, 1828.

TO SUBSCRIBERS.

THE undersigned, partly in consequence of a declining state of health, has been under the necessity of disposing of the "*Western Journal of the Medical and Physical Sciences.*" The Editor, Dr. Daniel Drake, is the purchaser; and will, hereafter, be the sole Proprietor and Publisher as well as Editor. To him or his authorized agents, therefore, in future, all letters of business must be directed, and all payments remitted.

E. S. BUXTON.

Cincinnati, Ohio, July 31st, 1828.

TO THE

PHYSICIANS

OF THE

WESTERN STATES.

At the close of the last number of The Western Journal of the Medical and Physical Sciences, the subscribers were informed that it has been transferred to the undersigned, who has, therefore, unexpectedly become at once Proprietor, Editor and Publisher.

It is not without regret, that he finds himself thus situated; as his editorial duties were, of themselves, sufficient to occupy most of the time, which professional engagements left at his disposal. Inured, however, to hard labour, and deeply interested, as he has become, in the success of the undertaking, he is far from cherishing a feeling of discouragement. Having, in 1819, issued proposals for a similar work, and obtained a considerable number of subscribers, he was the first to project such an enterprize in the Western States—although various causes, chiefly growing out of his connexion with Medical Schools, precluded him from entering upon its performance before the opening of the year 1827. Since that time he has encountered several unexpected difficulties; but indulges the hope that they have at length disappeared, and that the work will be rendered as permanent, as such publications generally

are: whether it can be made as worthy of public patronage, must depend, not on his own exertions merely, but on the contribution to its pages, with which he may be favored, by the enlightened Physicians, Surgeons and Naturalists of the great region which it is designed to represent.

Such contributions he, again, respectfully, solicits, and would here take occasion to indicate certain subjects, to which he would, especially, invite the attention of his Western brethren.

1. Rare or singular cases of disease. To report all cases would be impracticable and absurd. To report the successful *only*, is uncandid. Cases which go to the suggestion of a new principle or rule of practice; which either weaken or sustain a disputed point; which, terminating unfavorably, may serve as a warning to the profession; and, finally, those which occur with exceeding rarity, may always be published with advantage to others, and credit to the reporter.

2. New forms of disease, depending on causes, either discovered or unknown.

3. Annual epidemics, in which the reporter should always omit, as far as possible, whatever is common to the malady in all its visitations, and occupy himself with its peculiarities.

4. Brief or synoptic reports, consisting of a sort of account current with the weather and diseases, of the different seasons.

5. Accounts of new medicines; with a clear discrimination between their effects and the effects of those for which they are offered, either as auxiliaries or substitutes.

6. Experimental treatises on our *native* medicinal plants.

7. Chemical and therapeutick accounts of our mineral springs.

8. Comparative histories of the diseases of the negroes and whites.

9. Facts for an estimate of the peculiarities, which the diseases prevailing on board the steam boats of the Western and Southern waters may present.

10. Reports on the diseases in our penitentiaries.

11. Detached facts, in clinical medicine, which may be proper for insertion under the head of Original, Miscellaneous Intelligence.

12. Notices of the discovery in the West and South, of such minerals, as are in any way employed in pharmacy.

The Editor would not, however, absolutely restrict his correspondents to new facts; inasmuch as he believes that on many subjects a new arrangement of old ones, is imperiously required; he would be happy, therefore, to receive and publish essays and dissertations on all subjects in the profession, provided they develope, either new principles or new practical maxims.

In regard to the rules which should be observed in the preparation of papers, for a Medical Journal, he will take the liberty of offering to his junior brethren a few remarks.

In such papers, the first excellence is *truth*. Every thing that is published in a journal of medical science, should, as far as possible, be divested of error; for it may all, sooner or later, influence the treatment of the sick, whose lives might be jeopardized, in consequence of perversions or suppressions

of the truth. The next great requisite is *perspicuity;* that what the writer has observed and thought, may be readily and clearly comprehended. The next is *conciseness*; which many readers would, in reality, place at the head of the column of good qualities:— And it cannot be denied, that they would have much reason on their side; for the quantity that is published, in the journals, and detached works, of the present age, is really enough to deter the timid and the indolent, from all reading. *Originality*, is another important property, which should never be wanting. Mere learning, and laborious rumination of that which has been masticated by others, will neither advance the interests of the profession, nor satisfy readers of good sense. Finally, those who write for medical journals, should not consider the minor rules of composition beneath their attention. If advanced in years and reputation, their example will be authoritative, and should, therefore, be a good one: If young, they should seize every occasion to improve themselves in the art of writing. Indeed no member of the profession, either high or low, should consider himself at liberty to disregard the laws of *orthography*, *etymology*, *syntax* and *collocation* in any thing which he presumes to address to his brethren. Lastly, in mercy to editors and compositors, he should write (or procure to be written) an unaffected and legible hand; without which, he has, in fact, no guaranty, that the printed will be a correct copy of his written communication.

The undersigned, regarding the "labourer as worthy of his hire," proposes to his brethren of the West and South:

I. A receipt for the year's subscription to the Journal, for every paper, of not less than four pages, which shall be deemed worthy of insertion.

II. One dollar a page, for every communication, exceeding four pages, which may, from its merits, be entitled to publication.

III. A premium of fifty dollars, for the best dissertation on each of the following topics:

1. The general principles of the pathology and treatment of the diseases, of the negroes of the Southern States; with a particular application of them to the malady generally denominated Negro Consumption; reference being constantly had to the constitutions and diseases of the whites of the same region, as standards of comparison.

2. The treatment of autumnal fever on the principles of Bronssais; with a comparative estimate of the success of that plan and the one previously pursued, illustrated by original cases.

3. The remote cause and morbid anatomy of the disease denominated in the Western country the "*Sick Stomach;*" with a successful discussion of the question, whether it is a new disorder.

4. The successful application of the process of Civiale, to the destruction of the *calculus vesicæ*, established by American cases.

The dissertations to be accompanied, as is usual in such cases, by private letters containing the names of the authors; which letters will not be opened until a decision is made on the respective merits of their papers.

It only remains for the undersigned to add, that, having divested himself of all connection with medical

schools, he proposes to bestow upon the Western Journal, now the only publication of the kind in Cincinnati, all the time and attention that can be spared from professional duties; and that, in dedicating his humble abilities to its establishment and dissemination, he hopes to be honored with the countenance and co-operation of many of his senior brethren of the West; while he confidently anticipates the assistance of his former alumni, both private and public, wherever this appeal may find them.

DANIEL DRAKE, M. D.

CINCINNATI, OHIO, AUGUST, 1, 1828.